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ADAPTATION TO SCHOOL SETTINGS--A STUDY OF CHILDREN'S ATTITUDES AND CLASSROOM BEHAVIOR. FINAL REPORT.

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THE RELATIONSHIP BETWEEN CHILDREN'S ATTITUDES TOWARD SCHOOL AND THEIR BEHAVIOR IN THE CLASSROOM WAS EXPLORED. SUBJECTS WERE 125 STUDENTS IN FOUR SIXTH GRADE CLASSROOMS IN A PREDOMINATELY WHITE WORKING CLASS SUBURB. THE CLASSROOM BEHAVIOR OF THE SUBJECTS WAS OBSERVED OVER A THREE MONTH PERIOD. QUESTIONNAIRES DESIGNED TO MEASURE THE CHILDREN'S ATTITUDE TOWARD (1) THE SCHOOL, (2) THEIR SCHOOL WORK AND TEACHER, (3) THEIR INTELLECTUAL AND ACADEMIC EXPERIENCE, (4) THEIR KNOWLEDGE OF THE SCHOOL ENVIRONMENT, AND (5) THEIR CHOICE OF SOCIALLY DESIRABLE RESPONSES WERE ADMINISTERED. BACKGROUND INFORMATION SUCH AS AGE, PARENTAL BACKGROUND, IQ, AND ACHIEVEMENT TEST SCORES WAS ALSO OBTAINED. AMONG THE RESULTS WERE THE FOLLOWING--(1) PUPIL ATTENTION WAS NOT RELATED TO PUPIL ATTITUDES, (2) THE BRIGHTER THE PUPIL, THE MORE LIKELY HE WAS TO BE ATTENTIVE IN CLASS, (3) GIRLS WERE MORE FAVORABLY DISPOSED TOWARD THEIR SCHOOL, MORE ACADEMICALLY SUCCESSFUL, AND MORE ATTENTIVE, AND (4) BOYS HAD MORE TEACHER-PUPIL INTERACTIONS AND MORE CONTROL MESSAGES. HOWEVER, THE RESULTS WERE NOT VERY STRONGLY SUPPORTED. STUDENTS WHO WERE DISSATISFIED WITH SCHOOL APPEARED TO BE AS INVOLVED AS THOSE WHO WERE SATISFIED. THIS MAY BE A RESULT OF TEACHER DOMINANCE IN THE CLASSROOM. (SK)

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ADAPTATION TO SCHOOL SETTINGS:

A STUDY OF CHILDREN'S ATTITUDES AND CLASSROOM BEHAVIOR

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CHAPTER I

THE PROBLEM AND ITS INVESTIGATION

School is the place where a child customarily acquires important skills and knowledge. But also, it is the setting where he learns to adapt to institutional demands and constraints. How he advances in this socializing process has immediate and distant implications. It may qualify both his present and future learning, and it may set his mode of adaptation to life.

The attitude a child bears toward his school constitutes an important element of this adaptation process. On the one hand, the child's orientation to school life and his readiness to respond according to that orientation contribute to what happens to him. On the other hand, his experiences shape his attitudes. No one questions the reciprocal influence between a pupil's attitudes and his adaptation to school, yet there exist few studies demonstrating how the relationship operates, particularly in the early formative years of elementary school children. The present study addresses itself to this need for empirical evidence by examining the relationship between children's attitude toward school and their classroom behavior.

A belief of long standing is that children's attitude toward school is tied to scholastic achievement. At first glance this belief makes perfectly good sense. The child who succeeds in school should be happy with school life, and his contentment should engender further success. In contrast, the child who fails should be unhappy, and his discontent should undermine attempts at improvement. However, although the argument may be logically persuasive, it wants empirical evidence.

Tenenbaum[1] tested 639 sixth and seventh graders in three New York City elementary schools, each of a different socio-economic level, and found that the correlations between attitudes toward school and Educational Quotient were negligible. Jackson and Getzels[2] reported that satisfied and dissatisfied students at a middle class private school did not differ from each other in ability or scholastic achievement. Similar results were obtained by Spillman[3] with lower class Negroes, Diederich[4] with suburban students, and Jackson and Lahaderne[5] with sixth-graders in a working class suburb. Sears[6] found that in regard to attitudes and achievement, "Only for superior boys are there consistent positive relations, and most of these are not significant." Perhaps the single most impressive statistic was obtained by the investigator using data collected from about 21,000 American students who participated in the International Educational Achievement Project.[7] The correlation between mathematics achievement scores and attitudes toward school was -.17 for 13-year old students. A similarly low negative correlation was found at other age and class levels.

The studies cited in the preceding paragraph indicate that the relation between attitude toward school and school achievement is complex at best. But, then, the absence of a direct association may be due to the limitations of achievement test scores and grades as indices of what is happening in the educational process. After all, these measures gauge an incomplete and highly abstract sample of the child's school experiences.

How may we move toward a deeper understanding of children's attitude toward school? One approach, and the one adopted by this study is to look at the concrete evidence of the child's adaptation to school. Obviously, the expression of dissatisfaction, especially among elementary school children, is not likely to be outright defection as in the case of truants and dropouts. What appears more probable is that the discontented pupils withdraw psychologically. Caught in what they perceive as an unrewarding situation that they must wait out or pass through, the discontented pupils may protect themselves against feelings of pain and frustration by withholding investment of themselves. The work of Erving Goffman suggests how this adaptation takes place.

According to Goffman,[8] the order of social gatherings is established and maintained by moral norms, "situational proprieties," that regulate the way individuals pursue their goals. These rules of conduct govern the allocation of involvement within a situation, and thus guide the individual in his attachment to or detachment from the situation.

Involvement, as Goffman points out, is a general element of proper conduct in our society. It refers to an individual's giving or withholding of his attention to some activity at hand; and it is a mode of communicating esteem and attachment for the other members of the occasion as well as for the situation itself. Its reversal, the failure to demonstrate appropriate interest, is a sign of alienation from the participants and the occasion.

In these terms, it is expected that students' attitude toward school might be demonstrated by their involvement, that is, by overt signs of their attention to the relevant classroom activities. Dissatisfied students may express their distance by breaking or avoiding the rules for allocation of involvement. They may act in ways which convey their disaffection. Perhaps they disregard new events in the situation, do not present an appropriate "front," are more engrossed in side activities than in the dominant class activity, daydream, do not look where told to focus, do not respond when questioned, do not participate in oral discussions, do not initiate communication with the teacher, and so on. In short, they may express their negative feelings by means of situational improprieties.

In addition to demonstrating their attitudes by their classroom behavior, pupils are expected to show their attachment to or detachment from the school by the degree of personal responsibility they assume, and the extent to which they learn about the school environment.

If students are dissatisfied with school, they might express their distance from the role of student by disclaiming personal responsibility for what happens to them. It is also likely that this projection of responsibility to external persons or forces implies a feeling of powerlessness. This variant of alienation exists when an individual feels he has no control over his own affairs; when he does not believe his own behavior can determine the consequences he seeks.[9]

The acquisition of knowledge about one's environment and one's place in it are dependent, in part, upon the individual's involvement in the various situations provided by the environment. By reducing his energy in the school venture, the dissatisfied student is likely to limit his attention to and his contacts with the environment and, thus, lower the probability of increasing his information about it. Moreover, if the student believes external forces control him, the acquisition of information is irrelevant to him. It matters little to him what facilities and services operate in his environment and the conditions under which they become available to him. Evidence for this proposition comes from two recent studies. One in a hospital setting[10] and the other in a reformatory setting[11] show that in these situations, social learning was dependent upon the subject's degree of alienation (sense of powerlessness).

In summary, the thrust of this argument is that the students' expression of attitude toward school is guided by rules of conduct which govern the allocation of involvement. The involvement of students will vary according to their attachment to or detachment from the school. Involvement will be demonstrated by their classroom behavior, and reflected in their feelings of personal responsibility, and in the amount of information they acquire about their environment.

Method

The classroom behavior of pupils was observed over a three-month period, questionnaires were administered to the pupils, and such background information as age, father's occupation, I.Q., and achievement test scores was obtained from school records. The pupils' expressed attitude toward school and their teacher were compared to the cumulative indicators of classroom behavior, and to measures of the pupils' environmental information and feelings of responsibility.

Subjects

The subjects were 125 students (62 boys and 63 girls) enrolled in four sixth-grade classrooms located in a predominantly white, working class suburb. The head of the household in 105 of the families was employed in an occupation which falls within Categories 4, 5, or 6 of the Warner Revised Occupational Scale.[12]

Two of the classes, each containing 34 pupils and taught by men were in one school; the other two, each containing 29 pupils and taught by women, were in another school. Pupil placement in the two schools was based solely on the student's place of residence. As far as could be determined by test results and observation, the pupil composition of each room was heterogeneous. I.Q., for example, ranged in each classroom from about 80 to above 125. A Spanish-speaking boy was omitted from the sample because he had an insufficient knowledge of English to respond to the questionnaires.

The sixth grade was chosen because this level was considered the lowest at which it was feasible to administer group questionnaires. The study was limited to an intensive examination of only four classrooms in order to obtain reasonably stable indicators of classroom events. It was expected, for example, that interaction and attention might vary from activity to activity, and from day to day for different students. Hopefully, the instability created by these extraneous factors might be controlled by concentrating on the students of four classrooms for an extended period. The classrooms were selected on the basis of information obtained from a pilot study indicating that they would not be likely to have an extremely skewed distribution containing unusual numbers of either satisfied or dissatisfied students.

Observations

The observer paid preliminary visits to each class in order to accustom the teacher and the pupils to her presence. In these and the subsequent visits she placed herself to the side of the room where she could see all the pupils without being in their direct line of sight. The visits which ranged from a half-hour to a full day, began in late September and continued through November. Throughout each visit were spaced tallies of either teacher-pupil communications or pupil attention. As far as was possible the observations were distributed over the entire school week and they sampled most of the activities in each room. The total hours of observation for each behavior in each of the four classrooms are indicated in Table 1.

TABLE 1

Hours of Observation

	Classrooms			
	A	B	C	D
Interaction	9.7	9.0	10.2	9.4
Attention	9.2	8.1	9.3	10.5
Total	18.9	17.1	19.5	19.9

Observations of the teacher-pupil interaction were recorded on the

Jackson Teacher-Pupil Communication Schedule[13] (see Appendix A). This Schedule required that each transmission of information between the teacher and an individual student be tallied. Messages directed to more than one student or to the entire class were ignored. The tally sheet was designed so that each entry designated 1) which student was involved in the communication; 2) whether the initiator of the message was the teacher of the student; and 2) whether the content of the message was primarily instructional, managerial, or prohibitory. Instructional messages were broadly defined as those in which some reference was made to curriculum content or to the attainment of educational objectives. Managerial messages dealt with the interpretation of classroom rules, and the definition of permissible behavior. Prohibitory messages dealt chiefly with keeping order and punishing misbehavior.

The measures of teacher-pupil interaction calculated for each pupil were: 1) the absolute frequency of instructional, managerial, and prohibitory messages; 2) the percentage of instructional, managerial, and prohibitory messages; and 3) the percentage of student initiated messages. The absolute frequencies of interaction were adjusted for pupils who had been absent. On the basis of the pupil's rate of interaction, the absolute frequencies were altered to show the number that would have occurred had he been present at each session.

The data on pupils' attention was collected on a modified version of the Jackson-Hudgins Observation Schedule[14] (see Appendix B). On the schedule was listed alphabetically, first the boys' names, and second the girls'. The observor looked at each pupil in turn and immediately noted after his name his state of attention. Four classifications were possible: "+" if the pupil was attentive; "-" if the pupil was clearly inattentive; "?" if it was uncertain to the observor whether or not the pupil was attentive; and "0" if the pupil's attention was not observable. Each pupil's percentage of tallies under each of the four attention classifications was computed. Hence, there were derived four measures of attention -- attention, inattention, uncertain, and nonobservable -- expressed as percentages.

A scanning of the total class was called a "sweep." For the convenience of later calculations, a maximum of 10 sweeps was recorded on each coding sheet. In general, a sweep of 30 pupils took about two minutes. Inter-observor reliability, defined as percentages of agreement, ranged from 86 per cent to 99 per cent with a median of 91 per cent for a series of observations made by Hudgins and Gore.[15]

Questionnaires

The questionnaires were administered to the pupils by the investigator while the teacher was out of the classroom. In order to enlist the cooperation of the pupils and to increase the sense of confidentiality, the investigator told the pupils that their responses were needed for research purposes at the University of Chicago and would not be seen by anyone connected with their school. In addition, the pupils were given envelopes into which they sealed their answer sheets.

The Student Opinion Poll II (SOP) (see Appendix C) was used to measure the children's attitude toward school. This instrument is a 49 multiple-choice-item test derived from an earlier form with 60 items.[16] The questions concern four aspects of school life, namely, the curriculum, the teacher, the peers, and the school. The following are sample items.

6. The things I am asked to study are of:
    - a. great interest to me
    - b. average interest to me
    - c. little interest to me
    - d. no interest to me

25. Teachers in this school seem to be:
    - a. fair at all times
    - b. generally fair
    - c. occasionally fair
    - d. often unfair

47. In general, my feelings toward school are:
    - a. very favorable -- I like it as it is
    - b. somewhat favorable -- I would like a few changes
    - c. somewhat unfavorable -- I would like many changes
    - d. very unfavorable -- I frequently feel that school is pretty much a waste of time

The test was scored by giving one point each time the student chose, from a set of multiple choices, the response indicating the highest degree of satisfaction with the aspect of school life under question. One item was repeated three times -- each time with the responses listed in different order. This check on the students' consistency of responses showed that out of the total sample of 125 students, six selected opposite choices. A point was assigned to this item when the three responses were consistent. Thus, although there were 49 items, the possible range of scores was from 0 to 47. The coefficient of reliability, based on the Kuder-Richardson formula 20, was .89 for the boys, and .85 for the girls. In an earlier study involving 293 sixth-graders the test reliability was .86.

The Michigan Student (MICH) Questionnaire

An abbreviated version of the Michigan Student Questionnaire[17] (see Appendix D) assessed the students' attitude toward their present teacher and schoolwork. The shortened form used in this study contained 37 descriptive statements, each followed by four possible replies: strongly disagree, disagree, agree, and strongly agree. A student's response to each item was scored 4, 3, 2, or 1 depending on the degree to which his reply reflected a positive attitude toward his teacher. Thus, the possible range of scores was from 37 to 148. Test reliability based on a variation of the Kuder-Richardson formula appropriate for weighted scores[18] was .94 in a study involving 293 sixth graders. The following are sample items.

12. What we learn in this class makes me want to learn new things.
    Strongly disagree   Disagree   Agree   Strongly agree
16. This teacher certainly knows how to teach.
    Strongly disagree   Disagree   Agree   Strongly agree
23. I really like this class.
    Strongly disagree   Disagree   Agree   Strongly agree

The Children's Intellectual Achievement Responsibility (IAR) Questionnaire[19] is a 34 forced-choice items test concerning the assignment of responsibility for one's intellectual-academic experience.

One-half of the items concern the acceptance or rejection of failure, the other half, of success. The measure of a pupil's sense of personal responsibility, which ranged from 0 to 34, was calculated by giving a point each time the pupil chose a response indicating acceptance for his failure or success. The following are sample items.

3. When you have trouble understanding something in school, is it usually
    - a. because the teacher didn't explain it clearly, or
    - b. because you didn't listen carefully?

6. Suppose you did better than usual in a subject at school. Would it probably happen
    - a. because you tried harder, or
    - b. because someone helped you.

Environmental information, the pupil's knowledge of the school environment, was assessed by the School Information (INFO) Questionnaire (see Appendix E) which is a set of questions regarding such aspects of the school environment as personnel, facilities, and regulations. A point was given for each correct response. Two points could be earned on items 13, 16, and 29 because they consisted of two questions; six points could be earned on item 17. The range of possible scores was from 0 to 32. Sample questions were:

15. Does your school have a special person give speech correction services?

_____ Yes
_____ No
_____ Don't know

19. Is school ever called off because of bad weather?

_____ Yes

_____ No

_____ Don't know

34. What is the name of the person who cleans your classroom?

____

In addition to questions about the school environment, the pupils were asked to indicate their favorite and least-liked subjects.

The Children's Social Desirability (CSD) Questionnaire[20] measured the pupils' tendency to choose socially desirable responses out of a need to appear socially adequate rather than out of personal conviction. The range of possible scores for this 48 item true-false questionnaire is 0 to 48. The instrument was scored by assigning one point each time the pupil maintained he never deviated from social norms.

2. I tell a little lie sometimes.
7. Sometimes I do not feel like doing what my teachers want me to do.
26. I never get angry.
31. I always wash my hands before every meal.

Achievement and Intelligence Test Scores

The achievement test scores were derived from the 1) Scott, Foresman and Company Basic Reading Test to accompany The New People and Progress; and 2) Stanford Achievement Test (Intermediate II, complete battery). The intelligence quotient was taken from the Kuhlmann-Anderson Intelligence Test.

Analysis of the data

The data for the four classrooms were combined and analyzed separately for the boys and girls. Separate correlation matrices for the four classrooms were computed and compared to ascertain that the relations derived from the pooled data existed in more than one classroom and were in the same direction. Such measures, based on the pooled data, that might be misleading are shown within parentheses in the tables.

To recapitulate, this study's concern with children's adaptation to school life was focused upon the connection between pupils' attitudes toward school and their behavior in classrooms. It was anticipated that satisfaction with school and teacher, as expressed by responses to the SOP and MICH, would be related to the frequency and kind of interactions pupils have with their teachers, and to the amount of attention pupils pay to the on-going class activity. Moreover, satisfaction would be associated to feelings of personal responsibility, as expressed on the CIAR, and to knowledge about the school environment, as measured by INFO.

Specifically, it was anticipated that measures on the SOP and MICH would be positively related to the: 1) frequency of instructional contacts; 2) frequency of managerial contacts; 3) percentage of student initiated communications; 4) percentage of attention; 5) CIAR score; and 6) INFO score. It was also anticipated that measures on the SOP and MICH would be negatively related to the frequency of: 1) prohibitory messages; and 2) the percentage of inattention.

The following questions, ancillary to the core problem, were also examined. First, in regard to involvement, what relationships existed among its various indicators? What relationships existed between the indicators of involvement and achievement? And I.Q.? Did the reflections of involvement appear differentially at different levels of satisfaction or only at the extreme stages of satisfaction and dissatisfaction?

Second, was pupil attention fairly stable or did it fluctuate from situation to situation? Was a pupil's specific attitude toward a subject related to the attention he demonstrated while that particular subject was being taught?

CHAPTER II

THE FINDINGS

Attitudes and Behavior

Table 2 deals with the hypothesized relation between children's attitudes and their verbal participation in the classroom. Of the 28 correlations, only three reach a .05 level of statistical significance. The negative correlations between the boys' attitudes toward school and toward their teacher and the number of prohibitory messages they received make sense. The links seem to imply that the less boys liked school and their teacher, the more they were apt to behave in ways that incurred disciplinary messages. The correlation for girls

TABLE 2

Correlations between Students' Attitudes and Teacher-Pupil Interaction

	Student Opinion Poll II		Michigan Student Questionnaire	
	Boys (N = 62)	Girls (N = 63)	Boys (N = 61)	Girls (N = 63)
Frequency of interactions:				
Instructional...........	-.16	-.16	-.20	(-.25[a])
Managerial...............	-.23	-.05	.01	-.21
Prohibitory..............	-.32[a]	-.03	-.26[a]	-.13
Percentage of interactions:				
Instructional...........	.23	-.04	.10	.00
Managerial..............	-.07	.03	.16	.01
Prohibitory.............	-.24	.03	-.23	-.01
Student initiated........	-.14	-.09	.00	-.07

[a] Significant at .05 level.

between the MICH and frequency of instructional messages is unclear. It was negative in three of the classrooms and positive in the fourth.

The obvious conclusion to draw from the low correlations in Table 2 is that, in general, children's attitudes had little influence upon the amount and the kind of interactions pupils had with their classroom teacher. The finding is perplexing not only because it upsets the expectations of the present study but because it counters the results of other studies concerned with interpersonal relations. In the classic study of H. H. Kelley,[21] for example, the favorable or unfavorable disposition of college students toward the lecturer had an effect upon their participation in the class discussion. And, in recent years, Ned A. Flanders[22] has found connections between pupil attitudes and teacher-pupil talk.

Attention to the on-going class activities was the second classroom behavior which was expected to correlate with the pupils' degree of satisfaction with school. As can be readily noted in Table 3, there

TABLE 3

Correlations between Students' Attitudes and Attention

Attention	Student Opinion Poll II		Michigan Student Questionnaire	
	Boys (N = 62)	Girls (N = 63)	Boys (N = 61)	Girls (N = 63)
Attentive......	.12	-.13	.02	-.09
Inattentive....	-.07	.10	.00	.03
Uncertain......	-.08	.10	-.02	.11
Nonobservable..	-.16	.19	-.09	.22

was no relation between attitudes and attention. Feelings toward the school and the teacher apparently did not influence the pupils' attentiveness in the classroom. This result is in keeping with the conclusion that children's attitudes had little effect upon their classroom behavior. Moreover, it intensifies the problem of discovering which variables, if any, relate to children's attitude toward school.

Table 4 deals with the children's feelings of personal responsibility and their acquisition of information about their school. There was a link between attitudes and feelings of responsibility for academic achievement which was more pronounced for boys than for girls. Although there was an association, it is difficult to surmise whether the pupil who liked school gained a sense of responsibility, or whether the more responsible pupil tended to like school.

TABLE 4

Correlations between Students' Attitudes and Children's Intellectual Achievement Responsibility and Environmental Information

	Student Opinion Poll II		Michigan Student Questionnaire	
	Boys (N = 62)	Girls (N = 63)	Boys (N = 61)	Girls (N = 63)
CIAR	.39[a]	.26[b]	.34[a]	.16
INFO	.05	-.06	.11	-.03

[a] Significant at .01 level.

[b] Significant at .05 level.

For neither boys or girls did attitudes correlate with environmental information. Evidentally, acquiring bits of information about the environment did not depend upon feelings of attachment to or detachment from the school. This finding adds to the puzzle. Once again, attitudes toward school were not related to children's behavior in school.

In demonstrating the absence of a relation between students' attitudes and their achievement test scores and I.Q., the data in Table 5 confirm the findings of prior studies.[23,24,25,26,27,28,29]

TABLE 5

Correlations between Students' Attitudes and Measures of Scholastic Performance

	Student Opinion Poll II		Michigan Student Questionnaire	
	Boys (N = 62)	Girls (N = 63)	Boys (N = 61)	Girls (N = 63)
Measures of achievement:				
Scott-Reading..........	.17	.05	.01	-.01
Stanford-Reading........	.16	-.10	.08	-.12
Stanford-Arithmetic.....	.16	.03	.01	.02
Stanford-Language.......	.07	-.08	-.05	-.07
I.Q.	.15	.10	.08	-.06

The scatter plots of the relevant bivariate distributions were examined to ascertain that the lack of correlation was not due to curvilinear associations.

In sum, the data provide little support for the hypothesis that children's attitudes toward school life will be demonstrated in classroom behavior and reflected in feelings of personal responsibility, and environmental information. Only two findings back the hypothesis. First, the negative relation between the boys' attitudes and the frequency of prohibitory messages is evidence that boys tend to show their disaffection by the infraction of rules, and, consequently incur reprimands. Second, the relation between the attitudes and the CIAR shows that, for boys in particular, feelings about school and teacher are connected to feelings of personal power.

But more questions are raised than answered by the data. First, why are there so few links between attitudes and behavior? What happens in classrooms to offset the natural effect of attitudes on behavior? Second, are classroom behaviors nonetheless related to such educational concerns as achievement and I.Q.? Third, can patterns of adaptation be inferred from further analysis of the data? Partial answers are sought in the following sections.

Teacher-pupil interactions and pupil attention are analyzed, each in turn, for their possible association with achievement, I.Q., and environmental information. And, of course, their relation to each other is also examined. The last section of the results analyzes the differences between the boys and girls. The mean scores and standard deviations, as well as the correlations among the variables, are compared.

Classroom Behavior

Teacher-Pupil Interactions

Teacher-pupil interactions are such a pervasive aspect of classroom life that it seems incredible they would not provide indices to what happens in classrooms. True, they did not reflect children's feelings toward school, but are they not connected to other important educational concerns? The exploration of this question begins with the data which are provided in Table 6 and which demonstrate the relations between the teacher-pupil interactions and academic achievement.

Three points are evident. First, instructional messages were positively related to achievement tests. Second, with one exception, there were no statistically significant correlations between the absolute frequency of managerial and prohibitory messages and achievement. However, the percentage of managerial and prohibitory messages which made up a pupil's total interchanges were negatively correlated to achievement. Third, the percentage of messages initiated by students was not significantly related to achievement.

The obvious conclusion to be derived from Table 6 is that the instructional interactions pupils had with their teacher were, indeed, relevant to their academic learning. The relation of these contacts to achievement parallels the findings of the Travers study[30] in which it was concluded that pupils who responded orally to the teacher learned best from their instruction. Perhaps, as was pointed out by Travers, the instructional interactions are effective because they allow direct reinforcement to take place.

TABLE 6

Correlations between Teacher-Pupil Interactions and Achievement

	Achievement							
	Scott		Stanford					
	Reading		Reading		Arithmetic		Language	
	Boys (N = 61)	Girls (N = 63)	Boys (N = 56)	Girls (N = 55)	Boys (N = 56)	Girls (N = 55)	Boys (N = 56)	Girls (N = 55)
Frequency of interactions:								
Instructional............	.28[c]	.45[a]	.38[b]	.50[a]	.35[b]	.44[a]	.41[b]	.49[a]
Managerial...............	-.24	.01	-.03	.00	-.15	.02	-.18	.10
Prohibitory..............	-.31[c]	-.12	-.07	.09	-.22	-.23	-.21	-.05
Percentage of interactions:								
Instructional............	.52[a]	.29[c]	.28[c]	.22	.46[a]	.31[c]	.46[a]	.21
Managerial...............	-.32[c]	-.17	-.19	-.17	-.32[c]	-.12	-.32[c]	-.12
Prohibitory..............	-.42[b]	-.28[c]	-.22	-.14	-.35[b]	-.40[b]	-.35[b]	-.21
Student initiated........	-.11	.06	.13	-.02	-.02	.18	.10	.20

[a] Significant at .001 level.

[b] Significant at .01 level.

[c] Significant at .05 level.

Only slightly less obvious than the positive relation of instructional interactions to achievement are the negative relations of managerial and prohibitory messages to academic learning. Interestingly, it does not appear to be the sheer frequency of these messages that matter but rather the extent to which they account for a pupil's total interchanges. Possibly, when a pupil has a high percentage of managerial and prohibitory contacts, his share of instructional messages is proportionately decreased, and hence, so is his opportunity for direct reinforcement.

Finally, the proportion of contacts pupils initiate with their teacher did not seem to matter to their achievement. It may be that the opportunities to initiate contacts were too few to make a difference, or that the communications were initiated by a desire for the teacher's approval rather than a need for instructional information.

Although the relations were generally linear, there were several exceptions. First, girls who were below the mean on the Scott reading and the Stanford arithmetic tests tended also to be below the mean in frequency of instructional interactions, but girls above the mean of the achievement measures were just as likely to be below as above the mean in frequency of contact.

Second, boys above the mean on the Stanford reading and the Stanford arithmetic tests tended to be above the mean in percentage of instructional messages. However, the boys below the mean on these tests were scattered above and below the mean percentage of instructional contacts. Thus, it appears that achievement may be a better predictor of verbal participation than the latter is of achievement. For example, among the girls, a high frequency of contact indicates only some of the high achievers, whereas low achievement identifies almost all the girls with little talk. It also seems that the girls were somewhat better discriminated with respect to instructional interactions by the lower half of the achievement scale, and the boys, by the upper half.

The data in Table 7 reveal that the frequency of instructional messages is correlated to environmental information just as it is to academic achievement. However, a comparison of Table 7 to Table 6 indicates that, for boys, the dynamics of environmental learning may have differed from those of academic learning. In the first place, the

TABLE 7

Correlations between Teacher-Pupil Interactions and Environmental Information

	INFO	
	Boys (N = 61)	Girls (N = 63)
Frequency of interaction:		
Instructional.............	.35[a]	.35[a]
Managerial................	.28[b]	.12
Prohibitory...............	.17	-.15
Percentage of interaction:		
Instructional.............	-.01	.19
Managerial................	.07	-.03
Prohibitory...............	-.03	-.32[b]
Student initiated.........	.17	.11

[a] Significant at .01 level.

[b] Significant at .05 level.

frequency of managerial and prohibitory messages is positively related to the acquisition of information, and secondly, the relative frequency of the three types of interactions does not seem to matter. Perhaps the acquisition of information about one's environment required the activity and the testing of limits that usually are censured in the classroom.

For the girls, there is a negative correlation between environmental information and the percentage of prohibitory messages. Unlike the boys, the girls whose total interactions had a large percentage of control messages were not likely to know much about their environment.

Table 8 concerns itself with the relation between teacher-pupil interactions and ability. Apparently, I.Q. is more closely related to

TABLE 8

Correlations between Teacher-Pupil Interactions and I.Q.

	I.Q.	
	Boys (N = 61)	Girls (N = 63)
Frequency of interactions:		
Instructional................	.22	.50[a]
Managerial...................	-.01	.00
Prohibitory..................	-.14	-.13
Percentage of interactions:		
Instructional................	.25[b]	.27[b]
Managerial...................	-.11	-.14
Prohibitory..................	-.23	-.28[b]
Student initiated............	-.05	-.03

[a] Significant at .001 level.

[b] Significant at .05 level.

teacher-pupil talk for girls than boys. For boys, only the percentage of instructional interactions was tied to I.Q., whereas for girls both the absolute frequency and the percentage of instructional interactions were positively correlated to I.Q. In addition, the percentage of prohibitory messages was negatively tied to the girls' I.Q.

The scatter plot of this relation revealed that the girls below the mean I.Q. had low frequencies of instructional contact, while the girls at or above the mean I.Q. had both low and high frequencies of instructional interaction. The relation depicted on the scatter plot is summarized in the form of a chi square test in Table 9.

TABLE 9

Frequency of Instructional Interactions for Girls According to Ability

Frequency of Instructional Interactions	I.Q.		χ^2	P
	110 and Above	Below 110		
23 and over	22	3	12.71	.01
Under 23	15	23		

Apparently, girls low in I.Q. were not likely to get called upon in instructional matters as often as the more able girls. The same relation did not hold for boys. Boys low in I.Q. were called on almost as frequently in the instructional area as were bright boys, and certainly more than girls low in I.Q. This could mean teachers were more likely to encourage slow boys than slow girls. However, what seems more plausible is that slow boys disrupted the order of the classroom and received disciplinary messages in the guise of instructional messages. The teachers, for example, occasionally drew a pupil out of his absorption in a side activity by calling on him to recite rather than directly scolding him. Incidentally, in an interview conducted after the data were gathered, a pupil aptly described this maneuver: "...like if you're goofing, she *hits* you with a question." If the teachers employed such management techniques as these, a relation might exist between instructional and prohibitory interactions, and the relation might be more pronounced for boys than girls. And, indeed, Table 10 shows just such a relation and the correlation is stronger for boys than girls. Thus, the data support the observation that teachers sometimes used non-disciplinary communications to bring a pupil back in line.

TABLE 10

Correlations among Absolute Frequencies of
Three Types of Interaction

	Instructional	Managerial	Prohibitory
Instructional.		.35[b]	.37[b]
Managerial....	.13		.65[a]
Prohibitory...	.13	.28[c]	

Girls below diagonal; boys above diagonal.

[a] Significant at .001 level.

[b] Significant at .01 level.

[c] Significant at .05 level.

The high correlation evident in Table 10 between managerial and prohibitory communications suggests their common institutional character. Both entail the expectations defining the rights and privileges of students and governing the flow of people and material in the classroom. Prohibitory messages are indicative of a pupil's difficulty in behaving within the prescribed bounds. Managerial messages are less strident but in all the results they relate to other facets of school life in much the same manner as do prohibitory messages. This might mean that managerial communications are a pupil's means of testing the limits. Thus, managerial contacts may be at least a sign of pupil restlessness, if not difficulty, with institutional demands.

A final observation should be made regarding the data provided in Tables 6, 7, and 8. The amount of interaction a student initiated was not related to achievement, environmental information, or I.Q. As was stated earlier, the absence of significant relations between the percentage of student initiated messages and the other variables might be due to the pupils' lack of opportunity for initiating contacts. Alternatively, the contacts which pupils initiated might have been of such a trivial nature they held no significance for important educational concerns.

An aspect of the three types of interactions which deserves comment is the relation between their absolute and proportionate frequencies. Although the coding of these interactions yielded essentially quantitative measures, it captured some of the quality of a pupil's experiences. Consider, for example, the differences, summarized in Table 11, among three pupils' communication records.

TABLE 11

Comparison of Three Pupils' Interaction Records

Pupils	Type of Interaction					
	Instructional		Managerial		Prohibitory	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
A	10	40			15	60
B	20	80	3	12	2	8
C	35	70			15	30

The contrast between Pupil A and Pupil B reveals that a pupil's total number of contacts is an insufficient index to his verbal participation in class. Both pupils had a total of 25 contacts but it is obvious from A's 60 per cent of prohibitory messages as against B's 8 per cent that Pupil A was having a harder time in school than Pupil B.

Less obvious but perhaps more significant is the difference between Pupil A and Pupil C. Judging by the frequency of prohibitory messages, one might believe that both pupils had comparably difficult class experiences. However, Pupil C's high frequency of instructional messages accounted for 70 per cent of his total contacts. Thus, his 15 prohibitory messages represent 30 per cent of his total communications, whereas Pupil A's 15 prohibitory messages occupy 60 per cent of his total. Clearly, Pupil C's situation is more promising than Pupil A's. Although Pupil C had an equally high number of prohibitory messages, these contacts did not account for the major portion of his interactions. And, as was noted in Tables 6, 7, and 8, it is the percentage rather than the absolute frequency of prohibitory messages that matters.

Pupil Attention

Pupil attention, as in the case of teacher-pupil interactions, was not connected to pupils' attitudes. This finding is puzzling because pupil attention ranks high among the concerns of educators, and it is probably the teachers' predominant measure of their teaching success.[31] A closer examination of the data should clarify the relation of pupil attention to school affairs. The first consideration is given to the relation between attention and learning.

The correlations in Table 12 between attention and measures of achievement support what seems self-evident, namely, the pupil who pays attention will gain the most from his instruction, and acquire the most information about his environment. Or, conversely, the data might be said to show that the pupil who is inattentive is not apt to achieve academically, or know much about his surroundings. The scatter plots depicted linear relations for the boys but not for the girls. On all but the Stanford arithmetic test, high achieving girls were usually highly attentive whereas low achieving girls were scattered along the attention scale.

TABLE 12

Correlations between Attention and Measures of Learning

Attention	Measures of Learning									
	Scott		Stanford						Environmental Information	
	Reading		Reading		Arithmetic		Language			
	Boys (N = 61)	Girls (N = 63)	Boys (N = 56)	Girls (N = 55)	Boys (N = 56)	Girls (N = 55)	Boys (N = 56)	Girls (N = 55)	Boys (N = 61)	Girls (N = 63)
Attentive	.51[a]	.49[a]	.46[a]	.39[b]	.53[a]	.39[b]	.48[a]	.37[b]	.33[b]	.45[a]
Inattentive	-.47[a]	-.53[a]	.42[a]	-.44[a]	-.52[a]	-.39[b]	-.47[a]	-.38[b]	-.37[b]	-.52[a]
Uncertain	-.28[c]	-.33[b]	-.37[b]	-.24	-.36[b]	-.37[b]	-.34[b]	-.31[c]	-.13	-.25[c]
Nonobservable	-.23	.07	-.08	.05	-.06	.17	-.03	.11	.01	.12

[a] Significant at .001 level. [b] Significant at .01 level. [c] Significant at .05 level.

TABLE 13

Correlations between Attention and I.Q.

Attention	I.Q.	
	Boys	Girls
Attentive	.48[a]	.44[a]
Inattentive	-.35[b]	-.46[a]
Uncertain	-.49[a]	-.33[b]
Nonobservable	-.20	.07

[a] Significant at .001 level.

[b] Significant at .01 level.

[c] Significant at .05 level.

A relation between attention and I.Q. is evident in Table 13. The brighter the pupil, the more he was likely to be attentive in class. This raises the obvious question of whether attention made a unique contribution to achievement or whether its effect was due solely to its linkage to I.Q. Table 14 reveals that for boys the partial coefficient between achievement and attention, with I.Q. held constant, was significant at the .05 level with the Scott Foresman Reading Test and the Stanford Arithmetic Achievement Test. For girls, however, a significant result obtained with only the Scott Foresman Reading Test. Apparently, attention made a difference with respect to certain types of achievement but not others. More important is the question of whether it is proper to search for the effect of attention independent of I.Q. Maybe the ability to attend is an integral part of intelligent performance

TABLE 14

Regression Analysis of Sets of Variables Predicting Achievement

Set		Achievement											
		Scott			Stanford								
		Reading			Reading			Arithmetic			Language		
		Partial r	F	Beta	Partial r	F	Beta	Partial r	F	Beta	Partial r	F	Beta
Boys	I.Q.	.46	16.06[a]	.46	.50	19.62[a]	.52	.55	25.79[a]	.55	.46	15.91[a]	.47
	Attention	.31	6.29[b]	.29	.19	2.18	.17	.26	4.16[b]	.22	.23	3.19	.21
Girls	I.Q.	.70	56.69[a]	.68	.56	28.35[a]	.56	.62	38.39[a]	.62	.51	21.57	.51
	Attention	.26	4.39[b]	.19									

[a] Significant at .01 level. [b] Significant at .05 level.

Significance of partial correlation indicated by F.

Degrees of freedom: for boys = 1,59; for girls = 1,61, except with Scott-Reading = 1,60.

Omissions indicate variables for which F value was less than 1.00. If only a single variable appears as significant in a set of variables, the partial correlation should be interpreted as a simple correlation.

Each partial correlation in the set is computed by holding constant the effects of the other variables.

and contributes as much to a child's performance on an I.Q. test as to his achievement in school.

Achievement is not only linked to I.Q. and attention, but as was noted in Table 6, it is also tied to instructional messages. It is of interest, then, to look at the relative contribution of I.Q., attention and instructional contacts to achievement. Table 15 reveals that, for boys, the entry of the percentage of instructional messages into the regression model had a singular effect on three of the achievement tests, and practically neutralized the influence of attention. For girls, attention has some effect on one test, and frequency of instructional contact on another; however, I.Q. appears to have the greatest effect on academic performance.

The influence that preference for a particular subject may exert upon a pupil's attention is at least partly indicated in Table 16.

TABLE 16

Comparison of Pupil Attention during Arithmetic When A Favorite and A Least Liked Subject

	Favorite Subject	Least Liked Subject	Student's t	Degrees of Freedom	P
Boys	N = 14 $\bar{X}$ = 69 S.D. = 11.96	N = 24 $\bar{X}$ = 71 S.D. = 15.91	.43	36	ns
Girls	N = 19 $\bar{X}$ = 79 S.D. = 10.65	N = 22 X = 75 S.D. = 13.34	1.0	39	ns

There was no significant difference in percentage of attention during arithmetic classes between pupils who indicated arithmetic was a favorite subject and those who indicated it was the least liked subject. Another comparison was made of each pupil's attention during his favorite and least liked subject. Thirty-seven pupils were omitted because they indicated areas, such as gym or music, for which there were no records of their attention. Table 17 shows that the results were statistically significant.

TABLE 17

Mean Difference in Percentage of Attention during Favorite and Least Liked Subjects

N	$\overline{D}$	$S_{\underline{D}}$	Student's t	Degrees of Freedom	P
88	5.8	2.2	2.6	87	.01

Two reasons may explain why the comparison of pupil attention during favorite and least liked subjects did not yield statistically significant differences when it was restricted to arithmetic (Table 16), but did when it was unrestricted to subject matter (Table 17). First, the constraints imposed upon pupils to be attentive may vary with the subject matter, and hence, disinterest may be displayed more freely in some areas than others. Conceivably, the teacher may condone a freer atmosphere during health or social studies classes, for example, than during the periods allotted to the "3 r's." Second, in the comparison which is summarized in Table 16, different pupils were used in the favorite and in the least liked groups. Hence, there was a confounding of attention attributable to liking the subject matter, and attention due to each pupil's over-all attention level. For example, it is possible that the students who listed arithmetic as a least liked subject nevertheless maintained a relatively high level of attention in all subjects, including arithmetic.

It seems reasonable that attention vary with the most and least liked subjects but it is interesting to note its relative stability over the entire range of activities. An examination of the individual records discloses that, on the whole, pupils maintained fairly consistent levels of attention, regardless of subject matter, activity, or time of day. Table 18 gives a global view of this stability.

TABLE 18

Comparison of Percentage of Pupil Attention under Varying Conditions

Time of Day		Day of Week		Subject	
A.M.	74	Monday	69	Arithmetic	72
P.M.	69	Tuesday	69	Language Arts	72
		Wednesday	73	Science	72
		Thursday	74	Reading	71
		Friday	72	Social Studies	67

[N = 125]

There was a slight edge of morning over afternoon hours, and of the latter part of the week over the first two days. If these data are repeated, it would seem that, in general, one might expect about 71 per cent of the pupils to exhibit cues of attention at any one moment of the class day.

Teacher-pupil interactions and pupil attention have been reviewed separately; their connection to each other remains to be examined. Table 19 shows a relationship between attention and interactions that is more

TABLE 19

Correlations between Attention and Interaction

	Attention							
	Attentive		Inattentive		Uncertain		Nonobservable	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Frequency of interactions:								
Instructional.............	.14	$.44^a$	-.18	$-.35^b$	-.18	$-.47^a$	$.27^c$	-.16
Managerial................	$-.26^c$	$-.36^b$	.20	$.33^b$	.06	.19	$.41^a$	$.39^b$
Prohibitory...............	$-.25^c$	$-.27^c$	$(.25^c)$	$.27^c$	-.06	.20	$.37^b$	.02
Percentage of interactions:								
Instructional.............	$.39^b$	$.68^a$	$-.40^b$	$-.60^a$	-.10	$.54^a$	$-.27^c$	$.40^b$
Managerial................	$(-.37^b)$	$-.56^a$	$(.33^b)$	$.48^a$	$.26^c$	$.42^a$	.13	$.48^a$
Prohibitory...............	-.24	$-.41^a$	$.27^c$	$.39^b$	-.06	$.38^b$	$.25^c$	.03
Student initiated.........	-.21	-.24	.14	.19	.02	.14	$.45^a$	$.38^b$

[N = 62 boys, 63 girls]

[a] Significant at .001 level. [b] Significant at .01 level. [c] Significant at .05 level.

consistent for girls than boys. Not only are there fewer correlations reaching a .05 level of statistical significance for boys, but of these the sign of the three measures enclosed in parentheses is questionable. Although the relationships existed in each of the four classrooms, the direction of the correlation from the combined data was unclear. For example, the relation between the percentage of managerial messages and attention was positive in two classes and negative in the other two. These differences among classrooms suggest that either boys are more responsive than girls to classrooms conditions, or that teachers vary in their treatment of boys but not of girls.

A minor but interesting point in Table 19 is the relation between nonobserved pupils and the frequency of managerial messages and the percentage of student initiated interactions. "Nonobservable," it will be recalled, was the category under which a pupil's behavior was coded when he was not at his desk. This might have occurred, for example, when he went to the washroom or had a drink of water. In the classrooms visited, the pupils could not leave their desks without permission. Hence, it makes sense that the pupils who were not observable had initiated relatively frequent managerial contacts.

The relation between the percentage of instructional interactions and attention tempts one to speculate about the nature of the association. Is it attentive behavior itself that invites a higher percentage of instructional messages, or are the connections of attention to ability and achievement responsible for the proportion of instructional contacts? According to the data in Table 20, attention influenced the

TABLE 20

Regression Analysis of Selected Sets of Variables Predicting Percentage of Instructional Interactions

Set	Boys				Girls		
	Partial r	F	Degrees of Freedom	Beta	Partial r	F	Beta
I.Q.			1,60				
Attention	.39	10.83^a	1,60	.39	.68	51.67^a	.68
Scott Reading	.41	11.39^a	1,58	.48			
Attention	.21	2.73	1,58	.22	.68	51.67^a	.68
I.Q.	-.13	1.03	1,58	-.14			
Stanford Reading							
Attention	.39	10.83^a	1,60	.39	.68	51.67^a	.68
I.Q.							
Stanford Arithmetic	.28	4.93^b	1,59	.29			
Attention	.24	3.67	1,59	.25	.68	51.67^a	.68
I.Q.							
Stanford Language	.29	5.50^b	1,59	.30			
Attention	.26	4.24	1,59	.26	.68	51.67^a	.68
I.Q.							

[a] Significant at .01 level. [b] Significant at .05 level.

Significance of partial correlation indicated by F. Degrees of freedom for girls = 1,61. Omissions indicate variables for which F value was less than 1.00. If only a single variable appears as significant in a set of variables, the partial correlation should be interpreted as a simple correlation. Each partial correlation in a set is computed by holding constant the effects of the other variables.

percentage of instructional contacts received by pupils, particularly girls, and both attention and achievement had singular effects on the boys' interaction pattern.

Curiously, I.Q. had no effect independent of attention, or of achievement. In ordinary social intercourse one tends to address himself to the person who gives appropriate cues of interest. Similarly, it may be that the teacher is drawn to the pupil who demonstrates some involvement in the class activity.

The analysis of classroom behavior revealed that teacher-pupil interactions and pupil attention were related to academic achievement, environmental learning, I.Q., and to each other. Furthermore, attention was found to be fairly stable from situation to situation but affected by a pupil's preference for one subject over another. Table 21 summarizes the major results by indicating the direction of the correlations that occurred at or above the .05 level of statistical significance. The results have been partly discussed in the presentation of the data but several additional observations should be pointed out.

First, it will be noted that not only the sheer frequency of interaction mattered but also the context of the communication and the relative frequency of each type of message. Hence, the absolute frequency of prohibitory messages did not necessarily signal a child's difficulty in school unless these contacts also accounted for a high proportion of his total interactions. Obviously, one way to maintain a high percentage of instructional contacts was through active interaction with the teacher

TABLE 21

Summary of Classroom Behavior Relationships

Variable	Related Classroom Behavior							
			Teacher-Pupil Interactions					
			Instructional		Managerial		Prohibitory	
	Attention	Inattention	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Achievement	+	−	+	+		− (Boys only)		−
I.Q.	+	−	+ (Girls only)	+				− (Girls only)
Environmental information	+	−	+		+ (Boys only)			− (Girls only)
Attention			+ (Girls only)	+	−	− (Girls only)	−	− (Girls only)
Inattention				−	+ (Girls only)	+ (Girls only)	+ (Girls only)	+
Instructional interactions (frequency)					+ (Boys only)	+	+ (Boys only)	+
Managerial interactions (frequency)							+	

but activity may not have been equally feasible for all pupils. It may have been temperamentally impossible for some pupils. Alternatively, teachers might have had little interaction with some pupils unless they disturbed the class order. The pupils in such cases would have had little opportunity to balance the proportion of their prohibitory contacts with instructional ones.

The importance of the relative frequency of the messages also indicates that involvement cannot be inferred from a high rate of interaction per se any more than withdrawal or disinterest can be from a low rate of interaction. In each class, as a matter of fact, were students low in frequency of communication yet satisfied and achieving, as well as students high in occurrences of contacts and low in both satisfaction and achievement.

Second, with the exception of the nonobservable category of attention, students' initiated talk was not significantly related to any of the other variables. This finding questions the justification for the concern educators and researchers often express regarding student oral participation. The significance of student talk, of course, varies according to the situation in which it is observed. Thus, worry about graduate students' participation in discussion may be well-founded. However, pupils' initiative in talking in elementary classrooms, such as those visited, does not appear to be of itself a sign of involvement.

Third, the direction of the correlations between each type of communication and achievement, as well as between communication and attention imply that more than instructional matters go on in classrooms.

The data suggest two areas: instructional and institutional. Obviously, the instructional messages serve chiefly work purposes. The managerial and prohibitory messages reflect, on the one hand, the teacher's effort at maintaining the social order of the class and on the other, the pupils' resistance to the order. Of course, it is no surprise to find that classroom affairs have both task and maintenance dimensions but it is interesting to observe their reflections in empirical data.

Fourth, and last, the comparison of classroom behaviors that relate to achievement and those that relate to I.Q. sketches faint outlines of two types of students. If the students are grouped in two sets, first according to achievement, and second according to I.Q., students high in either set tended to be attentive but they differed in the degree to which they accepted institutional demands. This is particularly evident for boys.

The achievers, both boys and girls, had few or no managerial and prohibitory messages; in other words, they had few interchanges concerning the order of the class. Thus, they might be characterized as conforming to institutional demands. The girls high in ability also appear to be conforming.

Resistance to the established order is clearest for the able boys. This is reflected in the lack of relationships between I.Q. and communications of a managerial or prohibitory nature. Evidentally, some able boys bucked the system. In contrast to achievers, they seemed to test and to trespass the limits of their classroom's code.

Sex Differences

The results discussed thus far have touched on differences between boys and girls. This section compares the boys and girls at greater length. The sex differences are summarized in Table 22. It is evident from Table 22 that boys and girls differ from each other in the intensity of their attitudes, in their academic performance, and in their classroom behavior.

It seems, on the one hand, that boys and girls adapt in different ways to school. On the other hand, it is likely that school itself provides different experiences to the child on the basis of his sex and he consequently learns adaptive modes congruent with his sex role. Be that as it may, the two modes of adaptation should become more distinct after a closer examination of the variables and their interaction.

In contrast to boys, girls seem to be somewhat more favorably disposed toward their school, more academically able and successful, and more attentive. Incidentally, despite the popular belief in the boys' superior quantitative abilities, there was no significant difference between the boys' and girls' arithmetic achievement scores. True, the arithmetic score is one of the two highest for the boys, and one of the lower for the girls; however, the girls still score higher in arithmetic than do the boys.

The boys exceed the girls in frequency of interaction and in the percentage of inattention. Particularly striking is the boys' higher occurrence of managerial and prohibitory messages. Boys not only received a preponderance of the disciplinary communications but, as

TABLE 22

Comparison of Means and Standard Deviations for Boys and Girls

	Boys			Girls			Student's	Degree of Freedom	P
	$\bar{X}$	S.D.	N	$\bar{X}$	S.D.	N	t		
SOP	28	8.9	62	31	7.2	63	2.4	123	.02
MICH	110	14.3	61	114	11.2	63	1.8	122	ns
CIAR	24	4.1	61	26	3.2	63	2.4	122	.02
CSD	26	7.4	61	26	9.2	63	.07	122	ns
INFO	16	4.3	61	16	3.8	63	.91	122	ns
I.Q.	104	14.5	61	110	13.4	63	2.19	122	.05
Achievement:									
Scott Reading	53	11.2	61	57	9.3	63	2.39	122	.02
Stanford Reading	56	15.2	56	64	12.9	55	2.99	109	.01
Stanford Arithmetic	56	13.3	56	59	9.1	55	1.2	109	ns
Stanford Language	52	16.6	56	66	15.4	55	4.4	109	.01
Frequency of interactions:									
Instructional	28	13.5	62	23	13.8	63	1.66	123	ns
Managerial	5	4.3	62	3	2.4	63	3.3	123	.01
Prohibitory	7	6.6	62	1	1.9	63	6.7	123	.01
Percentage of interactions:									
Instructional	71	14.6	62	82	12.2	63	4.8	123	.01
Managerial	13	7.9	62	12	9.8	63	.34	123	ns
Prohibitory	16	11.8	62	5	6.6	63	6.8	123	.01
Student initiated	22	12.1	62	24	16.2	63	.48	123	ns
Attention:									
Attentive	68	13.1	62	75	12.6	63	3.0	123	.01
Inattentive	19	9.9	62	14	9.2	63	2.48	123	.02
Questionable	11	4.6	62	9	4.3	63	2.2	123	.05
Nonobservable	3	2.8	62	2	1.8	63	2.3	123	.05

NOTE: Means were rounded to the nearest unit. Standard deviations were rounded to the nearest tenth. Student's t was computed using figures significant beyond three digits. Nonparametric tests showed essentially the same level of significance as did Student's t.

suggested by the data in Table 10, they also received controls in the guise of instructional contacts. Table 23 dramatizes the girls' greater conformity to school demands. Two-thirds of the girls had one or no reprimands. These comparisons seem to agree with the image of the boys' higher activity level, and more open resistance to institutional demands.

TABLE 23

Distribution of Prohibitory Messages

Number of Prohibitory Messages	Boys	Girls
	f	f
21	3	
20	1	
19		
18	2	
17	3	
16	1	
15	1	
14	2	
13	3	
12	2	
11	1	
10	1	
9	1	1
8		
7	4	
6	2	2
5	5	3
4	3	2
3	6	3
2	5	11
1	8	15
0	8	26

The data provided in Table 24 show that attitudes toward school, teacher, responsibility, and social approval are more interrelated for boys than girls. These data suggest that boys may have a more cohesive attitudinal structure than do girls. In turn, a cohesive attitudinal structure may mean that boys may be more active than girls because their feelings, being integrated, have the force to demand expression. Another possibility is that the girls are more aware than boys of distinctions in their experiences and therefore make more discrete judgments. As an instance, although there was a positive relation between the attitude toward the school and that toward the teacher for both boys and girls, it was much stronger for boys. Thus, for boys, the experiences attributed to school and those attributed to the teacher are very close. Indeed, for some the two may be synonymous. Not so for the girls. To be sure, the teacher and the school are related but it seems that girls separate their general feelings about the total school experience from their more specific feelings about their teacher. Perhaps they are less bound than boys by the immediacy of their current teacher.

TABLE 24

Comparison of Correlations among Questionnaires
for Boys and Girls

	SOP II	MICH	CIAR	CSD
SOP II		.74[a]	.39[b]	.44[a]
MICH	.46[a]		.34[b]	.43[a]
CIAR	.26	.16		.24
CSD	(.26[c])	.19	-.03	

Girls below diagonal; boys above diagonal.

[a] Significant at .001 level.
[b] Significant at .01 level. [c] Significant at .05 level.

The relation between the girls' responses on the CSD and the SOP was apparent in only one of the four classrooms.

Table 25 shows that academic achievement and I.Q. are tied positively to feelings of responsibility for the boys, and negatively to social adequacy needs for the girls.

TABLE 25

Comparison of Correlations for Boys and Girls between Children's Intellectual Achievement Responsibility and Children's Social Desirability Questionnaires and Measures of Learning and Ability

	CIAR		CSD	
	Boys	Girls	Boys	Girls
Scott-Reading	.24	.14	-.11	-.55[a]
Stanford-Reading	.33[b]	.03	-.06	-.35[b]
Stanford-Arithmetic	.27[c]	.19	-.15	-.53[a]
Stanford-Language	.27[c]	-.08	-.06	-.44[a]
INFO	.10	.18	-.10	-.32[c]
I.Q.	.33[b]	.23	-.08	-.49[a]

[a] Significant at the .001 level.

[b] Significant at the .01 level.

[c] Significant at the .05 level.

Table 26 indicates that classroom behavior is not linked to feelings of responsibility for either sex but is negatively connected to the girls' social desirability. The direction of the relation between the girls' responses to the CSD and the percentage of instructional messages is unclear. It was negative in two classrooms and positive in one classroom.

The susceptibility of the CIAR and CSD to sex differences was not anticipated and was all the more surprising because of the mean scores the boys and girls attained on these instruments. The girls scored higher than the boys on the CIAR, and there was no difference on the CSD. Thus, it would seem logical to anticipate links with the CIAR for

TABLE 26

Comparison of Correlations for Boys and Girls
between the Children's Intellectual Achievement Responsibility and
Children's Social Desirability Questionnaires and
Classroom Behavior

	CIAR		CSD	
	Boys	Girls	Boys	Girls
Frequency of interactions:				
Instructional	.13	-.07	-.12	-.55[a]
Managerial	-.17	.13	-.05	-.17
Prohibitory	-.16	-.08	-.25[b]	.10
Percentage of interactions:				
Instructional	.19	-.06	.11	(-.25[b])
Managerial	-.12	.11	.11	.14
Prohibitory	-.15	-.06	-.20	.27[b]
Student initiated	.00	.05		-.16
Attention:				
Attentive	.24	-.12	.00	-.44[a]
Inattentive	-.22	.13	-.03	.39[a]
Uncertain	-.07	-.01	.12	.38[a]
Nonobservable	-.21	.21	-.06	.16

[a] Significant at the .01 level.

[b] Significant at the .05 level.

the girls, and no sex differences in the way the CSD operates. As seen in Tables 25 and 26, the contrary occurred.

The interpretation of the results obtained with the CSD is particularly intriguing, not only because of the surprise element but also because the consistency of the relations suggests a distinct mode of adaptation. At least some girls with high CSD scores are low in measures of achievement, I.Q., environmental information, instructional interactions, and attention. The only positive relations are with the percentage of prohibitory messages and inattention. Obviously, some girls were in academic straits.

The examination of the relevant scatter plots showed that girls below the mean in achievement and I.Q. are, with rare exceptions, above the mean in needs for social approval; whereas girls at or above the mean in achievement and I.Q. can be located either above or below the mean CSD. Hence, not all girls with strong needs for appearing socially adequate were in scholastic difficulty. But girls low in achievement and ability were in trouble and their high need for social desirability might be a symptom of their predicament.

Apparently the feelings a less able girl may have had about school, the teacher, or personal responsibility were not related to her experiences in the classroom. But what happened in class -- academic failure, infrequent instructional messages, proportionately high prohibitory messages, and inability to be attentive -- may have mattered to her feelings about herself. Thus, she may have masked the fear of inadequacy by putting on a good face.

The findings set at issue the commonly held belief that boys have a harder time than girls in adjusting to the elementary school.[32] It is true that in this study the boys incurred most of the prohibitory messages but the rate may have been as much the complement of a general high activity level as the symptom of maladjustment. As was noted earlier, the frequency of prohibitory messages was not a likely sign of trouble unless it was coupled with a low percentage of instructional contacts. Hence, the male counterpart of the girl in difficulty is the boy with a high percentage of prohibitory and a corresponding low percentage of instructional communications. The point being underscored is that the girls' more subtle mode of coping probably obscures the fact that girls as well as boys may experience hardship in the elementary school.

For boys, feelings of responsibility were linked to achievement and I.Q. A regression analysis revealed that with I.Q. held constant, the CIAR did not contribute to achievement. In other words, the relation of the CIAR to achievement was not independent of I.Q.

In sum, the results support the stereotypes of the active, mischievous schoolboy, and the docile, successful schoolgirl. Boys had more teacher-pupil interactions, incurred more control messages, and exhibited a greater variance in the distribution of their interactions. Girls had higher I.Q.'s, greater achievement and a higher level of attention.

There also emerged from the data images of pupils in trouble, and these varied according to the sex of the child. The boy in difficulty was likely to have a communication pattern high in the proportion of prohibitory messages and low in the proportion of instructional messages. The girl in difficulty expressed a high need for appearing socially adequate and was on the lower end of the I.Q. and achievement scales.

The way in which the CIAR and CSD operated according to sex demonstrates that the comparison of means is insufficient for an understanding of sex differences. The CSD, for example, indicated boys and girls were alike in their need for social approval. Yet the correlational analyses revealed the extent to which girls were differentiated by the CSD.

CHAPTER III

DISCUSSION OF THE RESULTS

Theoretically, it makes sense to expect attitudes toward school to be related to teacher-pupil interactions and pupil attention. Indeed, the complex of beliefs, feelings and values toward school which the attitude represents would seem an irresistible force upon behavior. Why, then, was there such faint evidence of the hypothesized connections? Why, for example, did students who are dissatisfied with school appear to be just as involved as those who are satisfied? What has happened to the popular stereotype of the sulky malcontent? The search for clarification begins with a consideration of the context in which the two classroom behaviors occurred.

In retrospect, the distinctive feature of the talk heard in the classrooms was its dominance by the teacher. First, the teacher initiated most of the interactions, and even when the pupil initiated contact he required the teacher's recognition before he could speak. Second, the teacher was free to talk as long as he wished but the pupil was confined to brief exchanges. The youngster could respond to a question, ask for clarification of instruction or offer a comment but if he talked beyond a proper time limit, he was cut short. Third, most of the contacts were between the teacher and the pupil. Rarely was communication between pupils sanctioned. Fourth, only one pupil could speak at any given moment. This, of course, implied competition among classmates for the privilege of speaking and an attendant probability of refusal.

Under the conditions described, part of the pupils' adjustment to classroom life comprised the lack of opportunity for verbal participation. Some pupils may have relinquished all initiation of contact and simply waited for the teacher to call upon them for routine recitations. Others may have become more aggressive, either disregarding the rules or insisting on attention. But these last two strategies risked disciplinary messages and sometimes disciplinary action. Two cases immediately come to mind.

In the first periods of observation, the investigator noted one boy who spontaneously offered comments or asked questions. Several times he was admonished for not raising his hand, and finally he was punished. Toward the last of the observations, he still was not raising his hand but neither was he talking. Another boy in another class seemed to always know the answers and to always want to give them. Leaning forward, half-way out of his seat, waving his hand furiously, and moaning, "Oh... Oh... Oh. I know. I know," he fairly burst with eagerness. He was reminded on several occasions that he was not the only one in the class, and that he should "Give the others a chance." Thus, if the pupils were unable to bridle their enthusiasm, they often ended in trouble.

Apparently, verbal interaction in these classrooms was largely the teachers' instrument for the maintenance of the social order. Under the circumstances, evidence of the pupils' attachment to their school had little chance to spring from verbal contact. It is true a muffled link emerged for boys between the frequency of prohibitory messages and attitudes. However, on the whole, a pupil's verbal interactions were probably more dependent upon the code of conduct enforced in his class than upon his feelings toward the school or the teacher.

As with teacher-pupil interaction, the constraints imposed upon pupils to maintain the classroom order probably inhibited the tie between attitudes and attention. Consider, for example, the following restrictions. Pupils could not leave the classroom, or for that matter get up from their desks without permission. As noted earlier, they had to be recognized before speaking up in class, and they could not chatter with their neighbors. Their actions at any given moment had to be within the sphere prescribed by the teacher. Moreover, the teacher called on the reluctant, snapped the daydreamer back to attention, reprimanded the cut-up, and often reminded the pupils of the designated focus of attention. In short, pupils were coaxed and compelled to adhere to a code of conduct that supported the order of the classroom. Thus, regardless of how they may have felt about school, the disgruntled pupils had little chance to do anything about it in the classroom.

It is evident that the forces for attention impinged upon everyone. Less apparent are the variables that accounted for fluctuations of attention. The possibility that ability to attend may be an integral part of intelligent behavior was suggested in the presentation of the results. If this were indeed the case, the less able pupils may have been limited in their capacity to attend just as they were in their capacity to achieve academically. Furthermore, the usual classroom situation where the teacher directed the curriculum to what he considered was the class average may have strengthened the connection between intelligence and attention. The able may have understood and participated in the instructional matter but the less able could not keep up. This possibility implies that in classrooms such as these the dynamics of inattention may vary with ability level. The brighter pupils may be inattentive because they are bored, and the less able, because they are lost. In brief, all of the pupils in a classroom may be subjected to the pressures for attention but the extent to which they respond appears tied to a general ability variable rather than to their attitudes toward school.

It becomes clearer that the force of the situation in elementary classrooms may counter the influence attitudes would normally play in less restrictive environments. Moreover, the absence of official channels for the expression of dissatisfaction or the exploration of alternatives implies that the expectation held for the pupils is conformity. Confronted by these conditions, pupils may move through their school years -- not unlike factory workers -- doing a reasonably adequate job regardless of personal beliefs and feelings. Ironically, the lack of a relation between pupils' attitudes and classroom behavior may testify to the youngsters' success in adapting to an image of what is expected.

Obviously, the question to ask about children's adaptation to school settings is not the relation between their attitudes and classroom behavior. But, if the investigation led to the rejection of one approach, its findings regarding sex difference suggested a more promising route.

It was no surprise to find that boys tended to be aggressive in their style, and girls, docile. However, what became more defined was the way they differed in their response to pressure. The boys in trouble acted out and were reprimanded. Unclear is whether the high frequency of prohibitory messages was evidence of an adjustment to academic failure or whether the low achievement was an adjustive response to frequent scoldings.

The girls in academic difficulty seem to have compensated by striving to appear socially adequate. Unlike the boys they did not strike out at the environment but rather attempted to placate it. Perhaps they accepted responsibility for their shortcomings, or saw themselves as unworthy. Somehow being acceptable was more important to them than challenging circumstances. There is, of course, the possibility that the greatest stress placed on girls is the expectation of being a "good girl," hence, only girls who are sufficiently confident of their abilities dare appear less than perfect. Support for this possibility comes from the finding that CSD scores below the mean were obtained only by some of the girls high in ability, achievement, interaction, attention, and environmental information.

Clearly, the boys and girls used defenses congruent with their sex role, but what may be the consequences of the differences is open to speculation. One possibility is that the visibility of the boys' defenses makes them prone to surveillance if not retaliation of the institution's officials. However, at the same time it allows the officials to see the boys' stress and under proper conditions to bring them relief. In contrast, the girls' oblique adjustment is hidden to the observer and perhaps even to themselves. They avert recriminations but their problems may fester.

A second conjecture is that there is a greater chance for boys than girls to express their attitudes. With lowered constraints, probably more boys than girls act on their personal feelings. Third, and last, the trouble which ensues from the boys' defensive mode may be specific to the classroom. Few situations impose as strict a code of conduct as does the classroom. Thus, the activity that is frowned upon in class may be welcomed or tolerated in other groups. Conceivably, acting out for some boys may be a means of testing the limits of the environment. If this process threatens the social order of the group, as it apparently does in classes such as those visited, the boys are admonished. However, if the social order can tolerate the boys' activity, the boys are not in trouble. The gym class, band practice, and recess are examples of situations within the school that are less restrictive than the classroom.

Interestingly, the very behavior which makes boys vulnerable in class may help them acquire other than academic knowledge. The relation for boys between interactions and environmental information is some indication of this possibility. Academic achievement may go with acceptance of the classroom's code of conduct but acquisition of information about one's situation may require an inclination to test existing limits.

At least some of the problems of boys may stem from an inability to conform with institutional demands in specific situations. Not so for the girls. The girls in difficulty adhere to the classroom code of conduct. This docility is not surprising. Very likely, the pervasive sex role expectations for girls reinforces the institutional demands for compliant behavior. Thus, the classroom may be just another instance in which to play out the social expectations.

Perhaps the root of the girls' problem is a deep sense of inadequacy. Girls, in general, may be submitted to such powerful pressures for conforming to a social ideal that they cannot face their fallibility. Hence, most girls may deceive themselves as well as others to give the impression of meeting socially desirable standards.

When the need for social adequacy is compounded by actual failure, the stress upon the girl may become unbearable. Thus, she may come to deny reality, as implied in the assertion of social perfectibility, and to withdraw from combat, as suggested by the infrequent interactions and lowered attention. Furthermore, the withdrawal may affect more than her classroom functioning. This would seem logical, and there was a hint of it in the troubled girls' lowered environmental information scores.

Alternative interpretations have been applied to the findings regarding sex differences. Remaining to be explored is whether the boys and girls adapt differently to the same school environment or whether the school environment offers different experiences to the child on the basis of his sex. A useful question to pursue might be the ways in which the adjustive tasks presented by the classroom situations place different stresses on boys and girls.

To conclude, the force of the school situation upon the children's behavior raises concern regarding the role the children's feelings play in their adaptation to school. On the one hand, part of the child's socialization requires learning to control his feelings and desires, to respect the social order of his group, and to adhere to the code of conduct. On the other hand, the child must learn to recognize what is of value to him personally. If he has insufficient opportunity to initiate acts based on his own beliefs and values, he may not learn to use the consequences of his behavior for better self-direction. Other questions will undoubtedly suggest themselves, but "Does it matter?" persists. Does the extent to which children may express their attitudes toward school in their classroom behavior make a difference to their development?

APPENDIX A

Date ______________ Day of Week______________ Time: Start________ End________

Activity ______________________________

Subject______________________________

Names of Students	Instructional		Managerial		Prohibitory	
	Initiated by		Initiated by		Initiated by	
	Student	Teacher	Student	Teacher	Student	Teacher
BOYS						
GIRLS						

APPENDIX B

Jackson-Hudgins Observation Schedule (Revised)

This record measures the student's degree of attention to relevant classroom activities. It is kept on coding sheets which alphabetically list first the boys' names and second the girls'. Ten columns follow the list of names. Each column represents a "sweep," that is, the scanning of the total group being observed.

The procedures for coding involves seven steps.

1. Draw a line through the row following names of absent students.
2. Record situation:
    a. The date of observation
    b. The unit observed, that is, whether the entire class is observed or a subgroup.
    c. Area of focus, that is, the subject to which the teacher has called attention, for example, arithmetic, or social studies, or art.
    d. Prescribed activity:
        (1) teacher-class. This includes recitation, discussion and lectures.
        (2) seat work. This includes tests, writing in workbook, or otherwise working individually at one's desk.
        (3) audio-visual. This includes viewing films, TV, and film strips.
        (4) other specified activity. This would include any other activities prescribed by the teacher and not included in the above categories.

3. Record time observation period starts.
4. Record attention of each student.

   Look at each pupil in turn. (Either according to the seating arrangement or the alphabetical listing. In the latter case, the boys are coded first.) For each pupil, mark on his row in the appropriate column one of the following:

   a. "+" if pupil is attentive.

      The pupil must be attending to both

      (1) the area of focus, and

      (2) the prescribed activity.

   b. "-" if pupil is inattentive.

      The pupil is not attending to

      (1) the area of focus, and/or

      (2) the prescribed activity.

   c. "?" if you do not know whether or not pupil is attentive.

      This may occur when there are not sufficient cues to determine the focus of his involvement. As an instance, it is sometimes difficult to know whether a doodler is listening attentively to the teacher while drawing or whether he is deeply absorbed in his drawing and is deaf to his teacher's voice.

   d. "O" if the pupil is out of the room, on his way out, or returning to his seat. He is also coded "O" if at the moment of sweep he is sharpening his pencil or drinking water.

5. Record time observation period ends.
6. Change coding sheet for each new situation, that is, whenever there is a change in the unit observed, the area of focus, or the prescribed activity.

Cues for Judging Attention

1. POSTURAL: Body, head, eyes are turned toward the object or in the direction expected in the prescribed situation.

   Examples of attention:

   a. Pupil looks where the teacher has indicated. He looks at the TV screen, or at the blackboard during demonstrations, or at the teacher who is lecturing.

   b. Pupil has slight tension of the body, indicating "aliveness." As an instance, he may sit on the edge of his seat ready to break into the discussion or to raise his hand.

   Examples of inattention:

   a. Pupil looks out the window, at ceiling, or at other students when visual attention is demanded elsewhere.

   b. Pupil looks intently at someone else or at some action in room other than where teacher has called attention, such as looking at film projector being set up while teacher is demonstrating an arithmetic problem.

   c. Pupil has slumped posture, or his head resting on desk, or other sleeping positions.

2. BODY MOVEMENTS: There is an alive tone to pupil's movements. His activity is appropriate to the situation.

   Examples of attention:

   a. Pupil raises hand to respond to teacher.

   b. Pupil is involved in prescribed activity, such as reading, writing and so on.

Examples of inattention:

a. Pupil engages in horseplay.

b. Pupil attends to incorrect activity, such as reading when he should be writing.

c. Pupil is not involved in any activity when an activity is prescribed, such as not reading when should; or not looking up answers in text when asked to do so.

d. Pupil doodles and draws.

e. Pupil listens to another pair of pupils' conversation.

f. Pupil's eyes are vacant or glassy. The body is very still and he stares into space.

3. FACIAL EXPRESSIONS:

Examples of attention:

a. Pupil has bright, alert expression.

b. Pupil changes expression in response to what is going on. He smiles, raises his eyebrows, laughs, sighs.

Examples of inattention:

a. Pupil is sullen, listless and without expression.

4. OTHER:

Examples of attention:

a. Pupil has book open to proper page.

b. Pupil uses appropriate book.

c. Pupil clears his desk, moves to next period's assignment.

d. Pupil recites and otherwise shows signs of participating.

Examples of inattention:

a. Pupil's book is open to page other than the one teacher has indicated.

b. Pupil is reading a book not assigned by the teacher.

c. Pupil takes a long time clearing his desk and getting to the next task.

d. Pupil does not participate in discussion.

e. Pupil talks with neighbors when this is not permitted.

5. A general rule for judging attention is to take the stance of the teacher. On the one hand, if the pupil is involved in the activity prescribed by the teacher, he is judged as attentive. On the other hand, if the pupil is engaged in activity which the teacher would reprimand, he is judged as inattentive.

Date________________ Unit________________ Observer____________

Day of Week____________ Area________________

Activity____________

Time Begin____________________

Time End______________________

Name											TOTALS			
(Boys first)											+	—	?	0
....														
....														
....														
....														
(Girls)														
....														
....														
....														
....														
						TOTAL								

APPENDIX C

STUDENT OPINION POLL II

This is not a test. The answer to each question is a matter of opinion. Your true opinion, whatever it is, is the right answer. You will be asked a lot of questions about the school in which you are now studying. Wherever the words "school," "teacher," and "student" appear, they refer to this school, the teachers you have had while studying here, and your classmates in this school.

HERE IS AN EXAMPLE

Mark your answer in the box for PRACTICE QUESTIONS on your answer sheet.

0. In general I study

   a) too little
   b) too much
   c) about the right amount

If your answer is "a) too little," place an X in the box under a, like this:

	a	b	c	d
0	X			

If your answer is "b) too much," place an X in the box under b, like this:

	a	b	c	d
0		X		

Be sure the number on your answer sheet is the same as the question number.

If you have any questions, raise your hand and you will be helped.

Place your answer on the answer sheet.

Do not mark this booklet.

1. This school listens to parents' opinions

   a. too much
   b. just enough
   c. too little

2. The number of courses given in this school is

   a. too many
   b. just about right
   c. not enough

3. Although teachers differ in this school, most are

   a. very good
   b. good
   c. fair
   d. poor

4. In some schools the principal sees and talks with the students often, while in other schools he rarely sees them. In this school the principal sees and talks with students

   a. too often
   b. just about the right amount
   c. too little

5. The chance to say or do something in class without being called upon by the teacher is

   a. too little
   b. too much
   c. about right

6. The things that I am asked to study are of

   a. great interest to me
   b. average interest to me
   c. of little interest to me
   d. of no interest to me

7. Getting to know other kids in this school is

   a. easier than usual
   b. about the same as in other schools
   c. more difficult than usual

8. As preparation for Junior High School, the program of this school is

   a. too tough
   b. about right
   c. too easy

9. The class material from year to year

   a. repeats itself too much; you learn the same material over and over
   b. repeats itself just enough to make you feel what was learned before helps you now
   c. is so new that the things learned in the last grade do not help much in this one

10. In this school the teachers' interest in the students' school work is

   a. too great
   b. just about right
   c. not great enough

11. When students in this school get bad grades, their classmates usually

   a. feel sorrier for them than they should
   b. admire them more than they should
   c. show the right amount of concern

12. Students in this school are

   a. too smart -- it is difficult to keep up with them
   b. just smart enough -- we are all about the same
   c. not smart enough -- they are so slow I get bored

13. Most of the subjects taught in this school are

   a. very interesting
   b. above average in interest
   c. below average in interest
   d. dull and uninteresting

14. The teachers' interest in what the students do outside of school is

   a. too great
   b. about right
   c. too small

15. The student who shows a sense of humor in class is usually

   a. admired by the teacher more than he should be
   b. punished by the teacher more than he should be
   c. given about the right amount of attention

16. When teachers "go too fast," students do not know what is going on. In this school, most teachers teach

   a. too slowly
   b. about right
   c. too fast

17. Students who are good in sports are respected by classmates

    a. more than they should be
    b. less than they should be
    c. neither more or less than they should be

18. The practice of competing against each other or of working together in this school

    a. leans too much toward competition
    b. leans too much toward working together
    c. is well balanced

19. On the whole, the things we study in this school

    a. are about right
    b. should be changed a little
    c. should be completely changed

20. The teachers I have had in this school seem to know their subject matter

    a. very well
    b. quite well
    c. fairly well
    d. not as well as they should

21. Students may work either by themselves or in groups. In this school we work in groups

    a. too often
    b. just enough
    c. too little

22. Students get along together in this school

    a. very well
    b. about average
    c. not too well
    d. very badly

23. The amount of "school spirit" at this school is

    a. more than enough
    b. about right
    c. not enough

24. On the whole the school pays attention to the things you learn from books

    a. too much
    b. just enough
    c. not enough

25. Teachers in this school seem to be

    a. almost always fair
    b. generally fair
    c. occasionally unfair
    d. often unfair

26. The things we do in class are planned

    a. so badly that it is hard to get things done
    b. so well that we get things done
    c. so completely that we hardly ever get to do what we want

27. Our seats in class

    a. change too much; we can never be sure where we will sit and who will sit next to us
    b. change about the right number of times
    c. never change; we stay in the same place all year

28. The students who receive good grades are

    a. liked more than they should be by their classmates
    b. disliked more than they should by their classmates
    c. neither liked nor disliked more than they should be

29. In this school the teachers' interest in the students' school work is

    a. just about right
    b. not great enough
    c. too great

30. In my opinion, student interest in social affairs, such as clubs, scouts, and the "Y" is

    a. too great
    b. about right
    c. too little

31. In general the subjects taught are

    a. too easy
    b. about right in difficulty
    c. too difficult

32. When students need special attention, teachers in this school are

    a. always ready to help
    b. generally ready to help
    c. ready to help if given special notice
    d. ready to help only in extreme cases

33. The ability of the teachers in this school to present new material seem to be

    a. very good
    b. good
    c. average
    d. poor

34. In general, students in this school take their studies

    a. too seriously
    b. not seriously enough
    c. just about right

35. In this school teachers seem to teach

    a. too many things that are not useful to us now
    b. too many things that are useful to us now but not later
    c. both things that are useful now and can be useful later

36. When it comes to grading students, teachers in this school are generally

    a. too "tough"
    b. just "tough" enough
    c. not "tough" enough

37. The student who acts differently in this school is likely to find that most students

    a. dislike him for being different
    b. do not care whether or not he is different
    c. like him for being different

38. In my opinion, students in this school pay attention to their looks and clothes

    a. too much
    b. about right
    c. too little

39. In general, teachers in this school are

    a. very friendly
    b. somewhat friendly
    c. somewhat unfriendly
    d. very unfriendly

40. In general, I feel the grades I received in this school were

    a. always what I deserved
    b. generally what I deserved
    c. sometimes what I did not deserve
    d. frequently what I did not deserve

41. Teaching aids such as films, radio, and the like are used

    a. more than they should be
    b. as much as they should be
    c. less than they should be

42. Memory work and the learning of important facts are

    a. stressed too much
    b. used about right
    c. not stressed enough

43. In some classes the teacher is completely in control and the students have little to say about the way things are run. In other classes the students seem to be boss and the teacher contributes little to the control of the class. In general, teachers in this school seem to take

    a. too much control
    b. about the right amount of control
    c. too little control

4. Some schools hire persons in addition to teachers to help students with special problems. In my opinion, this type of service in this school is

    a. more than enough -- it is often forced upon us
    b. enough to help us with our problems
    c. not enough to help us with our problems

45. When a new-comer enters this school, chances are that other students will

    a. welcome him
    b. ignore him
    c. dislike him

46. Homework assignments in this school usually

    a. help us to understand
    b. have little to do with what we learn in class
    c. are just "busy work"

47. In general, teachers in this school pay

    a. too much attention to individual kids and not enough to the class as a whole
    b. not enough attention to individual kids and too much to the class as a whole
    c. about the right attention to individual kids and to the class as a whole

48. In general, my feelings toward school are

    a. very favorable -- I like it as it is
    b. somewhat favorable -- I would like a few changes
    c. somewhat unfavorable -- I would like many changes
    d. very unfavorable -- I frequently feel that school is pretty much a waste of time

49. In this school the teachers' interest in the students' school work is

    a. not great enough
    b. too great
    c. just about right

APPENDIX D

ABBREVIATED VERSION OF THE MICHIGAN STUDENT QUESTIONNAIRE

This is not a test because there are no wrong answers. The answer to each question is A MATTER OF OPINION, and your true opinion, whatever it is, IS THE RIGHT ANSWER. You will be asked a lot of questions about how much you like this class, the teacher, and the work you are doing here. All the questions refer to THIS ONE CLASS AND THIS PARTICULAR TEACHER. No one in your school will see your answers. By giving frank, true answers to show exactly how you feel, you can help us understand the opinions of students.

DIRECTIONS:

1. Do not skip any questions.
2. Make sure that the number on the answer sheet matches the question number when you mark your answer.
3. Work carefully, but quickly. Don't spend too much time deciding how to answer each question -- mark the answer that comes to your mind first.

HERE ARE TWO EXAMPLES

Mark your answers to these in the box for PRACTICE QUESTIONS in the upper right hand corner of the answer sheet.

PRACTICE QUESTIONS:

0. I think we should have school on Saturday.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

You have four alternatives to choose from. If you STRONGLY DISAGREE with the statement, put an "X" in the SD box on your answer sheet, like this:

	SD	D	A	SA
0.	☒	☐	☐	☐

00. Girls talk more than boys do.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

If you aren't really certain about this, but you are inclined to AGREE, you would put an "X" in the box marked A, like this:

	SD	D	A	SA
00.	☐	☐	☒	☐

However, if you STRONGLY AGREE, put an "X" in the box marked SA, like this:

	SD	D	A	SA
00.	☐	☐	☐	☒

DO NOT write on this questionnaire because other students will have to use it.

1. I get along well with this teacher.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

2. This teacher has lots of fun with us.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

3. This teacher helps to settle quarrels fairly.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

4. This teacher lets some kids get by without working very hard.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

5. This teacher praises us for good work.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

6. This teacher lets us all have turns doing the jobs that are fun.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

7. I think this teacher picks on some boys and girls unfairly.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

8. This teacher will always listen to both sides of an argument.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

9. This teacher is quick to see what mixes you up in your schoolwork.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

10. This teacher is always fair with each boy and girl.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

11. This teacher always asks the OTHER kids the EASY questions.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

12. What we learn in this class makes me want to learn new things.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

13. This teacher is one of the best I have ever had.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

14. I get pretty bored in this class.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

15. This teacher sometimes punishes the whole class for something one person did.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

16. This teacher certainly knows how to teach.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

17. This teacher really understands boys and girls my age.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

18. This teacher knows a lot.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

19. I find it easy to talk with this teacher.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

20. Our teacher makes everything seem interesting and important.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

21. This teacher makes sure not to hurt your feelings.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

22. This teacher often "bawls you out" in front of the class.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

23. I really like this class.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

24. I like to be called on in this class.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

25. This teacher makes it fun to study things.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

26. This teacher doesn't listen to what SOME boys and girls have to say.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

27. Our teacher helps us when we have problems with our work.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

28. This teacher has some special favorites or "teacher's pets."

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

29. This teacher makes me nervous.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

30. This teacher likes children.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

31. I wish I could have this teacher next year.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

32. This teacher likes to hear students' ideas.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

33. This teacher makes sure no children get left out of things.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

34. Our teacher is very good at explaining things clearly.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

35. This teacher gives us a chance to show what we are good at.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

36. When I'm in trouble I can count on this teacher to help.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

37. This teacher punishes me for things I didn't do.

SD--STRONGLY DISAGREE D--DISAGREE A--AGREE SA--STRONGLY AGREE

APPENDIX E

GENERAL INFORMATION QUESTIONNAIRE

1. What is your name?____

2. How old are you?____

3. When did you first enter this school?______________________________
(month --- year --- grade)

4. Do you have any older brothers and sisters who have attended this school?

____

If yes, list their names and present school grade.

____

____

____

5. Do you have any younger brothers and sisters who are now attending this school?___________________

If yes, list their names and present school grades.

____

____

____

6. What is your father's occupation?_______________________________

7. What is it you like best about school?_____________________________

____

8. What is it you like least about school?____________________________

____

9. Which subject do you like best?__________________________________

____

10. Which subject do you like least?_________________________________

____

11. What must a student do to get milk?______________________________

____

12. Can anyone get in the school band? (Check correct answer)

_____ Yes

_____ No

_____ Don't know

13. Can you check books out of the school library?

_____ Yes

_____ No

_____ Don't know

If yes, for how long a period?______________________________

If no, why not?______________________________________

14. Can anyone sign up for sports?

_____ Yes

_____ No

_____ Don't know

15. Does your school have a special person give speech correction services?

_____ Yes

_____ No

_____ Don't know

16. Are there other 6th grade classes in your school?

_____ Yes

_____ No

_____ Don't know

If yes, what are the names of the teachers in those classes?

____

____

____

17. What are the names of the other elementary schools in the Blue Island School District?____

____

____

____

____

____

____

____

____

18. What is the name of the principal's secretary?____________________

19. Is school ever called off because of bad weather?

_____ Yes

_____ No

_____ Don't know

20. How does one get Patrol Duty?____

____

____

21. Do you get any rewards for being on patrol duty?

_____ Yes

_____ No

_____ Don't know

22. Where is the fire alarm nearest to your class?____________________

____

23. Where is the fire extinguisher nearest to your class?______________

____

24. Where is the TV kept when not in use?______________________________

____

25. What is the name of the company that handles the class pictures?___

____

26. What do you have to do when you return to school after having missed one or more days of school?_)______________________________________

____

27. Where in the library do you find biographies?____________________

____

28. What is the name of the person who cleans your classroom?__________

____

29. Is it possible to skip grades?

_____ Yes

_____ No

_____ Don't know

If yes, explain when this might happen.___________________________

____

30. When can students bring their lunch to school?____________________

____

____

31. Will there be any special medical requirements for entry into school next year?

_____ Yes

_____ No

_____ Don't know

32. Do you have to stay in school when you don't feel well?

_____ Yes

_____ No

_____ Don't know

33. What should you do when you are hurt badly in the school yard?

____

____

34. Is there a public pay telephone in the school building?

_____ Yes

_____ No

_____ Don't know

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